National Health Insurance Scheme in Nigeria is on the verge of crisis of confidence

Despite its failings, the National Health Insurance Scheme (NHIS) in Nigeria is still considered as one of several useful mechanisms through which the country can make progress towards achieving the goal of universal health coverage (UHC). However, due to the way and manner the NHIS has been implemented so far, many stakeholders doubt if it could live up to its promise.

Fundamentally, after over a decade of existence and the investment of huge amounts of resources, this programme has not advanced beyond catering for Federal Government (FG) public sector employees and their dependants—less than 5% of the population. Several factors have been attributed to this state of affairs.

First, there is still poor understanding of operating an insurance-based health system by the implementers of the scheme. While the general public and many stakeholders perceive the ‘NHIS’ as the ‘system of health insurance’ that is backed by Decree 35 of 1999—consisting of a regulator, health plans or health funds, programmes and operators; the Administrator of the scheme tends to portray the ‘NHIS’ as the organisation set-up by the FG to administer the scheme—also called the NHIS (a misnomer). Consequently, the Administrator of the scheme (the Governing Council and the Administrative structure) has not only micromanaged the national health insurance system but also contravened many parts of the enabling law. For example, as opposed to its oversight functions, the Administrator of the scheme has become a direct-implementer of the FGs public sector formal programme by taking on the role of a ‘supra’ prepaid health plan (more like a ‘grand’ Health Maintenance Organisation (HMO)), leaving the regular HMOs that are meant to mobilise contributions, pool contributions and risks, and manage the risks; as ‘third-party administrators’. This in effect distorts the institutional arrangement set-up by the Decree to manage the scheme properly.

Second, for more than half of the period the NHIS has been operating, the NHIS Administrator has been without the Governing Council that is supposed to, ‘have general control of the Scheme... and manage the Scheme in accordance with the provisions of this Decree’. This situation has left successive Executive Secretaries who, ‘subject to the general direction of the Council, be responsible for day-to-day administration of the Scheme’; turn themselves into ‘Sole Administrators’. The implication of this is that the NHIS for most of its life is likely to have been managed by the impulses of the persons occupying this position. Therefore, the core objective of the scheme, aimed at protecting families from financial hardship of huge medical bills, suffers from the lack of effective public policy execution and poor corporate governance.

Third, the States in Nigeria do not feel that they could take part in the NHIS as designed. Nigeria is a federal country where the 36 States (with considerable political and financial autonomy) equally derive their authority from the Constitution as the FG. However, the FG decreed the NHIS with virtually no inputs from the States. as such, there are no specific roles for State governments in the NHIS, except the mention of setting up State Health insurance arbitration Boards (by the NHIS Administrator) to help resolve conflicts that may arise among aggrieved parties involved in the scheme. Shortly after the promulgation of the enabling law, the Forum of Commissioners of Health from the States pointed out this anomaly.

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of non-involvement of the States in the order of things and called for a review of the national health insurance system, administratively. But up until this moment, the NHIS Administrator has rather been antagonistic to the efforts of many States who are desirous of providing social risk protection for their citizens, in relation to healthcare access. Many State Authorities are emphatic that given their poor experience (contribution without benefits) with previous nationally run programmes by the FG such as the National Housing Fund, the National Social Insurance Trust Fund etc.; they are not prepared to send health insurance contributions of their public sector employees to be managed by yet another FG-sponsored programme. This failure to adhere to the principles of political economy as obtained in Nigeria, would continue to pose a major risk to the country's aim of achieving UHC at the shortest possible time.

And fourth, there are still lots of on-going implementation challenges, which among others would include: lack of organisational capacity in the management of an insurance-based healthcare service at all levels of operation—health facilities (providers), HMOs (pre-paid schemes) NHIS Administrator, (regulator); poor knowledge about health insurance both among policy/decisions makers (as a tool for rapid national economic growth), and in the general population (as a financial instrument that can significantly improve healthcare access); and unresolved ambiguity on the roles and responsibilities of the major players—NHIS Administrator, HMOs, providers, employers, employees, and ordinary consumers. Setting these issues is critical to ensuring that the NHIS survives now and thrives in the coming years ahead.

Meanwhile, there is concern that the NHIS Administrator rather fix what ills the National Health Insurance Scheme, in order to reassure the Nigerian public of the programme's effective supervisory mechanism, the scheme’s administrator has chosen to have a face-off with the Health and Managed Care Association of Nigeria—the body of HMOs; in the media. As the 'blaming game' between these two major actors becomes more acrimonious, the very notion of health insurance as a veritable means of financial-risk protection for citizens, for healthcare purposes is now in question. Stakeholders are now not only calling for restraint on the part of both parties to reduce the negative impact on the image of health insurance industry as a whole; but have also expressed the need for intense dialogue among all interest groups across the country, in order to find common solutions to advancing the health insurance agenda in Nigeria.

On the basis of the operations of the numerous private health plans promoted by HMOs, the FG public sector formal programme being implemented by the NHIS, and several pre-paid health-care schemes supported by various organisations across the country; the fact that health insurance can work in Nigeria has been proven. What is needed is to bring all these approaches up to scale to achieve UHC. This would require concerted efforts by everyone ‘working together’ to attain this laudable national health goal.

Tarry Asoka
Gene editing in the war against mosquitoes

It is controversial territory, but Shima Gyoh adds his voice (and argument) to the need to consider gene mutation in the war against malaria.

There are 3500 named species of mosquito in the world. They have existed for about 100 million years, much longer than humans, and can be found in most but the coldest habitats. In the food chain, mosquitoes are eaten by migratory birds in the tundra, spiders, salamanders, lizards, frogs, bats, and some aquatic animals, like the mosquito fish (Gambusia affinis) depend on mosquito larvae for survival. In turn, mosquitoes are reputed to suck about 300 millilitres of blood from each caribou in the herd in the tundra. I have not seen any estimation of the quantity they drink from humans, but the by-product of that activity is the diseases transmitted, and the figures are horrendous. About 200 species of mosquito bite humans; some even live in and around human habitation for that purpose. They transmit malaria though plasmodia, and through viruses they give us yellow fever, dengue, chikungunya, West Nile fever, Japanese encephalitis, and Rift Valley fever. According to WHO, mosquitoes infected 214 million people with malaria in 2015 with 238,000 deaths, the disease being particularly lethal to children and pregnant women. To drive home such statistics, one expert described malaria mortality as equivalent to six 747 Jumbo jets full of children under five and pregnant women crashing every day. The death toll is more than the two world wars combined and, though decreasing, the end is nowhere in sight and is even getting worse in some countries.

Search for vaccines for these diseases has not yielded great successes except for yellow fever. The Zika virus, which causes severe brain damage to babies in utero, is transmitted by Aedes aegypti. Its incidence has greatly increased in Brazil with fear of spread to other countries. With these tragedies, the intensification of the war on mosquitoes is inevitable. The choice of weapons is fortunately wide.

Reduction of exposure to bites can be done by insect-proofing of houses, sleeping under insecticide impregnated nets for the night biting anopheles, air-conditioning, protective clothing and insect-repellent creams will, in addition be necessary to protect against the Aedes species that bite during the day. These expensive measures are of limited value and not easily achieved in developing countries.

Many countries have eliminated malaria through good environmental sanitation and insecticide spraying around human habitation. These measures are often neglected or poorly done in African States, classified as low-income countries, forcing us to endure unacceptable toll in human life and the adverse economic consequences for our nations.

Insecticides are also toxic to plants and animals including humans and persist for long periods in the soil and water, contaminating vegetation and harming domestic and wild life. Furthermore, over time, mosquitoes eventually develop resistance to them, necessitating expensive research to continually develop new ones. Moreover, with increasing global warming and rapid air travel, the range of arboviral diseases previously regarded as problems of the tropical and subtropical climates have assumed worldwide importance. It would be ideal to have the silver bullet that picked out specific mosquitoes with no collateral damage. Such weapons have loomed into view.

A bacterium, Wolbachia pipientis, infects about 60% of insects including mosquitoes as an intracellular symbiont, but is not found in the mosquitoes responsible for transmitting diseases to humans. Just at the beginning of the millennium, it was found that Aedes species infected with a certain strain of this bacterium results in assorted effects favourable to insect control, depending on which species of the bacterium is involved. It shortens their lifespan and diminishes their ability to transmit the viruses of Zika, dengue chikungunya, and Anopheles infected with the bacterium become resistant to plasmodia. Some strains of Wolbachia also generally hinder the mosquito’s fertility and render their progeny sterile. Once introduced, Wolbachia infection is transmitted from parents to progeny and spreads rapidly among the mosquitoes, dramatically diminishing their population. The bacterium does not infect human beings. The strategy is to rear large numbers of Wolbachia-infected male mosquitoes and release them in the environment. For the public, it is counterintuitive to release crowds of mosquitoes in order to kill the insects, so the strategy has to be explained, adding that in any case male mosquitoes don’t bite. Trials have been conducted in Brazil, Australia and Singapore to see if the incidence of mosquito-borne diseases previously regarded as problems of the tropical and subtropical climates have assumed worldwide importance. It would be ideal to have the silver bullet that picked out specific mosquitoes with no collateral damage. Such weapons have loomed into view.

Advances in genetics have made it possible to edit the genome of the mosquitoes and achieve the desired outcome without doing any collateral damage to other living species or the environment. It has been particularly facilitated by the discovery of a ‘molecular scissors’, which bacteria evolved to fight virus infections. Scientists have now made it widely available and cheap. Called Clustered Regularly Interspersed Short Palindromic Repeats (CRISPR), it works in association with an RNA guided nuclease enzyme Cas9, and enables scientists to cut DNA at a predetermined site and if necessary insert a gene. Once
the genes that code for a particular attribute are located, alteration becomes relatively easy.

Anti-plasmodium effector gene, when inserted into the appropriate chromosome of *Anopheles*, the salivary glands of the infected mosquito do not contain the sporozoite, the stage that infects its victim during blood sucking. The CRISPR/Cas9 causes automatic copying of the transgene onto its allelic chromosome pair (gene drive), making the insect homologous for the character and all its progeny will inherit it. It has been done for *Anopheles stephensi*, the vector for malaria in India, and *A. gambiae* the vector in sub-Saharan Africa.

Other methods of genetic modification can turn off the gene for laying eggs, or confine hatching to only male eggs. The mosquito is drawn to human beings by the carbon dioxide we exhale, body heat and body odour, and the genes for sensing body odour can be inactivated. These are first done to insects in the laboratory, and by gene drive can be introgressed into the wild insects and rapidly inherited by the entire population.

Oxytec, a British company has developed a gene which, when inserted into the male *A. aegypti* prevents the expression of certain other genes, and when it mates, 95% of the offspring die before reaching maturity. The transgenic mosquitoes are kept alive in the laboratory on a special diet, and when released die after some days during which they would have fertilised females with the lethal gene and started a chain of such ‘death inheritance’ which should decimate the population. The company claims to have achieved 90% population reduction in field trials. The best achieved using insecticides is 50% with the additional undesirable side effects of environmental contamination. Companies develop and market these mosquitoes.

The technology has unsurprisingly drawn some concern and opposition from some members of the public as it often happens when unfamiliar practices are introduced into people’s culture. Life started on earth eons ago, they reason, and has taken that long to achieve a delicate balance and interdependence between the various living things, and ‘unnatural’ alteration could precipitate a chain reaction with perhaps unpredictable harmful consequences. This is, admittedly, a good principle, but if applied blindly, could stymie innovation and progress. Mosquitos do pollinate some plants, but if they were eliminated from the ecosystem, it would adjust without major upsets. It is difficult to imagine what possible ecological damage their decimation could cause that would exceed the devastating human suffering mosquito-borne diseases presently impose on humanity. The Gates Foundation that has committed US$2 billion to fighting malaria since its inception, understands this well, and Bill Gates supports the inclusion of genetic modification in the war against mosquitoes. So should the developing world.

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Towards the end of the year, government-owned medical centres in Oyo State would compile figures that would give an insight into what they did in the year ending. But in December last year, workers in several of the government-owned hospitals were in dire need of direction on what to do to cater for the period during which they were on strike since the data would not be accepted if found to be incomplete—so they did what they often do—extrapolation.

‘We know it is not right, but it is not wrong either. We examined the dataset for previous month and the one before it. Then we gave an estimate for the month under review. Even though you can say that the figures were not accurate, they could still serve the purpose of guiding in policy formulation,’ said a laboratory officer at Adeoyo Teaching Hospital.

Government hospitals are not the only ones that are involved in the act. Tens of kilometres away from the teaching hospital in Ibadan, a similar development was playing out at a primary health centre in Ejiozu. A postgraduate medical researcher, Bayo Onipede, used the community as study site revealed how those in charge of the facility modify the figures to achieve various ulterior motives.

‘I remember a month that only 22 patients were admitted but when I checked the data they sent to the State Ministry of Health, they added one to the figure to give the impression that they admitted 221 patients,’ said Bayo.

According to him, the nurse said they had to do that so that the government would know that people were visiting the hospital and in return, they would be provided with more materials needed to run the centre. He added that the act is the same at several other primary healthcare centres in the region.

‘Probably the more impactful data alteration is the one that is happening at facilities conducting HIV/AIDS tests and whose results are reflecting in the national HIV/AIDS report. A laboratory scientist in Abuja said many of the figures collated are not reflective of the true state of the pandemic in Nigeria.

A few years ago, we were asked to collate the number of HIV-positive cases reported in the laboratory over a given period by the sponsors of our free HIV diagnosis initiative. When we took a closer look at the figures we saw that we had very few positive cases. While we, the young scientists, were happy at the development and couldn’t wait to share the news with our peers elsewhere, our senior colleagues warned the management against sending the positive figures across to the sponsors claiming it would threaten the sponsorship of the HIV testing initiative,’ said Onipede.

‘One after another, they convinced us that we should send data that will convince the sponsors to keep sponsoring. I remember they said many things were at stake—including our jobs and the bonuses we were receiving for carrying out the free tests. Since no one wanted their jobs and bonuses to be taken away from them, we all cooperated and wrong dataset was sent,’ he said.

Misleading data epidemic

Experts believe that fake data has become an epidemic in Nigeria and it has made several health figures to be entirely unreliable. Commenting on this development, consultant to Nigeria Healthwatch, Dr. Ifeanyi Nsofor,
argued that there are problems with Nigeria’s health data because of how the datasets have become.

‘What we do is we design questionnaires and people go around to fill it, there is always errors with that. What technology does is that it cuts out the errors and makes the process of transferring data fast because it’s done electronically,’ he said.

This practice has been the foundation of many confusion and contradiction in health data and this is not peculiar to Nigeria alone as the World Health Organization (WHO) found itself enmeshed in arguments over the representative nature of its health data on tuberculosis (TB) in West Africa.

Last November, Dr. Matteo Zignol who works with the WHO (in a letter to The Guardian), responded to a claim made in a report that multidrug-resistant TB (MDR-TB) rates in West Africa are actually higher than estimates published by the WHO.

‘These claims are misleading and unhelpful. The study is based on data collected from selected referral centres located in the capital cities of eight west African countries which typically have a concentrated level of the most difficult TB cases, including MDR-TB. To extrapolate nationwide resistance rates from such focused data is misleading and does not present an accurate picture of the problem,’ Zignol said.

Economy factor
This was not the first time that validity of data would be argued but there are similar trends that are being associated with unreliable data—poor economy as reflected by the Gross Domestic Product.

According to Morten Jerven, who is an associate professor at Simon Fraser University in Vancouver, Canada, a poorer economy will have relatively fewer available resources to fund an official statistics office.

‘The quality and availability of data, and therefore the cost of collecting robust statistics, depend on individuals and companies keeping formal records of economic activity or filing taxes—which are less likely in poorer countries. This information is only occasionally collected in surveys,’ Jerven said.

He also argued that although some funds are becoming available for data collection, the circumstances surrounding the funds had made them unreliable and skewed.

Jerven said: ‘These are generally adhoc funds that support data collection for a donor-funded project. In practice, many statistical offices operate as a data-collection agency for hire, not an office that provides objective information needed for day-to-day politics or policy planning. This system means that donors distort data production rather than expand statistical capacity. And it stretches resources for manpower and infrastructure.’

According to the expert, this arrangement poses the challenge of lack of coordination.

‘Many countries have national strategies for statistical development, but, more often than not, donors break with these plans’ priorities and demand the data they need, thus adding to the fragility of statistical offices under increasing pressure.’

The intention factor
The abundance of datasets has made it even more difficult to know which data is correct as there are datasets skewed to achieve any purpose. Take for instance a frantic search to find data that supports the claim that malaria is on the decrease in Nigeria. A simple Google search will reveal several results one of which is that of a 2015 Nigeria Malaria Indicator Survey, which revealed that one in four children under five years tested positive for malaria, representing a 35% decline since the last Malaria Indicator survey in 2010, when more than 40% of children tested positive for the disease.

It is worthy to note that the survey was carried out by the National Malaria Elimination Programme, the Federal Ministry of Health, the National Population Commission, and the National Bureau of Statistics. On the other hand, anyone interested in arguing that malaria is on the rise in Nigeria would also get supporting datasets for the claim including research articles from various sources including journal articles revealing national, regional, State, and local datasets.
Making sense of data

Experts believe that for datasets to be reliable and trusted, they should give a true reflection of the situation under review and not just the view of people gathering the data to achieve certain objectives.

‘People gathering the data cannot give you reliable ones when they know that their jobs or benefits would be threatened if the dataset goes in a certain way. Until they can be rest assured that their jobs and bonuses are not threatened in anyway, we will continue to deal with this issue,’ said health economist Fisayo Akanji.

However, several experts believe that Akanji’s recommendation may not be entirely feasible as the goal of reliable data is to direct the usage and allocation of resources—mobilising them to where they are much needed. Instead, they recommended that there should be aggressive monitoring of the data collection process from one step to the other.

‘We are in this situation because of the fact that those in charge of collating data are doing a very lousy job with it. Let me say most of the doctored data could be identified if we have better monitoring in place,’ said public health expert, Ayo Akinbusola.

Jerven also alluded to the fact that monitoring is central to ensuring that available datasets are verifiable, applicable and reliable.

‘In the Millennium Development Goal discussions, for example, targets were identified first, but less thought was given to where the data needed to monitor them should come from. A new agenda for development data in sub-Saharan Africa is required—one that puts local demand, incentives and applicability at the centre.’

Prof. Ben Kiregyera, author of the book ‘The Emerging Data Revolution in Africa - Strengthening the Statistics, Policy and Decision-Making Chain’, argued that health data add-up is not just something that is peculiar to Nigeria, it encompasses the entire African continent and to achieve recordable improvements would require a data revolution.

‘The data revolution in Africa will be brought about by African countries themselves through dedicated capacity and institutional building. The data revolution in Africa has taken root, but its sustainability will require a robust domestic debate,’ he said.
Letter to the Editor

Nigeria’s life expectancy stunted by deficiencies in our health system

Dear Editor,

I commend you and your team for the marvelous work you have been doing to spread the message of healthcare, especially primary health care in Africa. I have been reading the journal since it came into existence.

I wish to comment on a write up in May edition of this journal this year (2016) on life expectancy in Africa.

From the data released by the World Bank there has been a remarkable rise in life expectancy between 2000 and 2015. According to the latest World Health Organization (WHO) data published in 2015 life expectancy in Nigeria is: Male 53.4, female 55.6 and total life expectancy is 54.5. Following this, it is believed that various governments have been doing something to increase the longevity of the people. Kudos to the donor agents and countries in their attempts at reducing maternal and child morbidity and mortality while vigorously fighting the HIV/AIDS scourge and other communicable diseases.

One would be happy that life expectancy has increased between 2000 and 2015, 20–42% in sub-Saharan Africa according WHO. However, going through the list of African countries that made significant increase Nigeria was not there. The World Bank quoted life expectancy for Nigeria at position 177th, just above the bottom eight countries. The Financial Times noted that the Africa rising narrative has increasingly been called to question in the past year with the International Monetary Fund predicting economic growth will slow 3% in 2016.

However, that is really not the issue. I was bewildered when I went through the list of the countries where this rise in life expectancy was between 20% and 42% and Nigeria was found. The last World Bank data I can remember life expectancy in Nigeria at 47 years before 2000. With the frustration and increase in poverty in the last five years, and the well known poor (or even non-) reporting and recording of births and deaths in Nigeria, we may have gone further down the World Bank Report for 2000–2015. I have no data to support this assumption, but most Nigerians can testify to the biting economic environment of the past decade.

Deaths from non-communicable diseases (NCDs) and trauma, do contribute significantly to the low life expectancy in Nigeria. Going by data from WHO trauma is the leading cause of death world-wide followed closely by cancers. Nonetheless, NCDs get little or no mention when primary health care is discussed. Our National Health Insurance Scheme (NHIS) representative at the 2nd National Cancer Summit in Abuja (5–6 October 2016), informed the public that NHIS (a scheme established to assist poor patients who take care of their healthcare needs) only pays for basic investigations and surgical care. Yet these are the people that need the support of the NHIS most, considering the high cost and protracted nature of cancer management.

Breast oncologists in the field can confirm this. I am actively practicing in one of the poorest states in Nigeria—Cross River State. This is the tip of the iceberg if you have ever been involved in caring for a breast cancer patient. Few non-government organisations that initially are enthusiastic to collaborate with me to take on a breast cancer patient often abandon the patient when the need for radiotherapy and chemotherapy are discussed. Many a patient has started chemotherapy but could not sustain for financial reasons and lack of psychological support, which most people take for granted. So the data brandished by the World Bank may not be completely correct as most information on world deaths are considered with non-reporting or wrong reporting of deaths even in cities. Most people deny the state their relatives died due to stigmatisation and the cultural isolation they are likely to face in the community either directly or indirectly. A few young people have been unable to find life partners because the community is aware they have had relatives who have died by any of these dreaded ailments, which is widely believed to run in families. They would hide the information by enticing the junior physicians in the teams to issue death certificates like ‘died of cardiorespiratory arrest’. The true cause of death of a person is always known among a few (but do not tell any other person). I will specially request the Federal Ministry of Health in general and the particular agency concern to tell Nigerians how old they are expecting to live and intensify their efforts at educating the rural dwellers in particular the increasing trend in cancer and those diseases we were taught in the medical schools four decades ago were very rare in Africa. We can no more pertain; the world is now a global village. Ebola outbreak in Liberia can reach the Americas or Europe in a matter of hours just yellow fever can enjoy a free ride across the Atlantic Ocean and surfaces in Houston, Texas, United States of America. The West is better prepared to handle epidemics of communicable diseases, cancers and trauma than most developing nations like Nigeria. Sadly our life expectancy will continue to lag behind.

Mark Umoh

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